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| 09/961,230 | 09/24/2001 | Satoru Toguchi | A081-A | 6511 |

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EXAMINER

YAMNITZKY, MARIE ROSE

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 1774 | 4 |

DATE MAILED: 05/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-A

Office Action Summary

Application No.

09/961,230

Applicant(s)

TOGUCHI ET AL.

Examiner

Marie R. Yamnitzky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 24-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-13, 24-26, 28 and 30-33 is/are rejected.
- 7) ☒ Claim(s) 9, 10, 27 and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/186,081.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

1. The preliminary amendment filed 09/24/01 (Paper No. 3), which amends the specification and cancels claims 14-23, has been entered.

Claims 1-13 and 24-33 are pending.

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it is too long. The abstract should fit on a single page. Correction is required. See MPEP § 608.01(b).

3. The disclosure is objected to because of the following informalities:

The formulae for compounds X1, X2 and X3 on pages 25-26 are poorly printed/incomplete. X1 and X2 on page 25 show incomplete ring structures and compound X3 does not show a bond between one of the nitrogens and one of the methylphenyl groups that should be attached to the nitrogen.

Appropriate correction is required.

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4. Claims 5, 28 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitations of claim 5 are not clear as dependent from itself.

Antecedent basis for "said aryl group" as recited in claims 28 and 30 is not clear. It is not clear if "said aryl group" refers to one or both of the aryl groups represented by Ar¹ and Ar², or if "said aryl group" could refer to the substituted or unsubstituted aromatic hydrocarbon group that may be represented by R¹ to R¹⁶. (In the case of claim 30, if "said aryl group" refers to only one of the aryl groups represented by Ar¹ and Ar², then claim 30 does not further limit the subject matter of claim 29, from which claim 30 depends.)

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 7, 8 and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Egusa et al. (US 5,294,810).

See column 13, line 39-c. 19, l. 45, especially the device described at c. 19, l. 10-45. The compound used in the second organic film of the device is a compound represented by present

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chemical formula C2 wherein R^1 and R^{14} form a ring, R^7 and R^8 form a ring, and each of R^2 - R^6 and R^9 - R^{13} represents hydrogen.

7. Claims 24-26 and 31-33 are rejected under 35 U.S.C. 102(a) as being anticipated by JP 10-102051 or as being anticipated by Tamura et al. (US 5,858,564).

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

JP 10-102051 is made of record by applicants. A machine-assisted translation of the reference is provided with this Office action.

JP 10-102051 discloses an organic electroluminescent device that emits red light and contains a terylene compound represented by present chemical formula C4 wherein each of R^2 , R^5 , R^{10} and R^{13} independently represents a hydrogen atom, an alkyl group, an alkoxy group, a halogen atom or a substituted or unsubstituted phenyl group, and each of R^1 , R^3 , R^4 , R^6 - R^9 , R^{11} , R^{12} and R^{14} - R^{16} represents hydrogen. The terylene compound may be used in a hole transporting layer that also functions as a light emitting layer, in an electron transporting layer that also functions as a light emitting layer, or in a light emitting layer that is distinct from a hole transporting layer or an electron transporting layer. See paragraphs [0010]-[0018] and [0030]-[0049].

Tamura et al. disclose an organic electroluminescent device that emits red light and contains a terylene compound represented by present chemical formula C4 wherein R^3 and R^4 (or

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R^{11} and R^{12}) form a ring, and wherein R^2 and R^5 (or R^{10} and R^{13}) each independently represent a hydrogen atom, an alkyl group, an alkoxy group, or a substituted or unsubstituted phenyl group, and each of the other Rs represents hydrogen. The compound may be used in a hole transporting layer that also functions as a light emitting layer, in an electron transporting layer that also functions as a light emitting layer, or in a light emitting layer that is distinct from a hole transporting layer or an electron transporting layer. For example, see column 4, line 65-c. 5, l. 36 and c. 11, l. 42-c. 14, l. 55.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 9-268284.

Claim 5 is included in this rejection as if dependent from claim 1 or claim 4.

See the entire translation, especially the claims and paragraphs [0018]-[0021], [0051], [0052], [0061], [0063] and [0081]. (In paragraph [0063] of the translation, the symbol " μ " should appear after 10 in the penultimate line and after 0.2 in the last line.)

JP 9-268284 discloses aromatic compounds substituted with two diarylamino groups wherein one or both of the aryl groups of one or both of the diarylamino groups may include one or more substituents. The compounds may be used in any of the layers between a pair of

electrodes in an organic electroluminescent device (e.g. see the claims). The device may be made to emit red light by including a suitable dopant in the light emitting layer (e.g. see paragraph [0081]).

While the prior art does not explicitly disclose a perylene compound of present formula C1, such compounds are clearly within the scope of the prior art. The aromatic compound that is substituted with two diarylamino groups is an aromatic compound having 6 to 20 carbon atoms, and may be a compound in which two naphthylene groups are directly bonded to each other as represented by the formula shown in paragraph [0020].

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make compounds suggested by the prior art other than the specific compounds disclosed by the prior art with the expectation that suggested compounds would have properties similar to the properties of the specific compounds disclosed by the prior art and would be equally suitable for the purposes of the prior art. One of ordinary skill in the art would have been motivated to make a variety of compounds suggested by the prior art in order to have a variety of compounds having light emitting, hole transporting and electron transporting properties that would be suitable for use in an organic electroluminescent device.

10. The reference made of record and not relied upon is considered pertinent to applicants' disclosure.

The patent to Tamano et al. (US 6,329,084 B1) is not available as prior art against the present claims given the earlier effective U.S. filing date of the present application. However,

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the patent is made of record in view of the similarity between the subject matter of present claim 1 and dependents and the subject matter of the patented claims.

11. Claims 9, 10, 27 and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 28 and 30 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (703) 308-4413. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax numbers for Art Unit 1774 are (703) 872-9311 for official after final faxes and (703) 872-9310 or (703) 305-5408 for all other official faxes. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (703) 872-9041.)

MRY
05/05/03



**MARIE YAMNITZKY
PRIMARY EXAMINER**

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